REMARKS

The Examiner has rejected claims 1-10 asserting that they are rendered unpatentable by the combination of Herkel et al '814 in view of Otto et al '593. Responsive to the rejection applicants have further amended independent claim 1 to clarify the nature of the invention and further emphasize its distinguishing features over the prior art.

Claim 1 as amended provides that means are provided for interrogating a lock sensor associated with lift shaft doors at short time intervals to allow for the detection of both communication interruptions and transmission errors as well as for the period testing of the locking sensors. The means provided comprise means for observing the signals that the lock sensors produce during opening and closing sequences that occur during normal elevator operation, as well as means for initiating a test travel of the cage to a story whose shaft doors have not been operated within a defined period of time, opening and closing the shaft doors, and observing the signals generated by the lock sensors associated with the doors.

Herkel discloses a control circuit in which means are provided for automatically interrogating lock sensors and for periodically testing the locking sensors. This is conducted by observing the results of "hardware checks" performed during a periodic communication established with the sensors. See Herkel col 4, lines 51-60. These checks are electronic in nature, and are performed irrespective of the location of the lift cage. Indeed, they are conducted without instructions being generated to position the lift cage at a particular location. Nowhere does the disclosure state that the testing includes positioning of the lift cage at the floor whose sensors are being tested, or that the cage doors are actually opened and closed to allow the response of the sensors to be monitored. Rather, the disclosure indicates that the monitoring is totally passive.

The present invention, as now claimed, specifically incorporates the positioning of the lift cage as a part of the monitoring procedure. The testing of the shaft door sensors occurs both as part of normal operation, when a lift cage is positioned at a story floor and the lift cage and shaft doors are operated in the normal manner, and also as a result of the generation of a test travel of the lift cage to a particular story floor, the opening and closing of the shaft doors in association with such travel, and the monitoring of the signals generated by the lock sensors as the doors are opened and closed.

The present invention thus provides for lock sensor testing by monitoring their responses to actual door opening and closing. If normal operation of a lift has failed to generate a response from the sensors at a particular story floor, the system directs the lift cage to the floor and initiates a door opening and closing sequence. In that manner the sensors are tested in an actual operating environment, rather than by merely performing a check thereof in the absence of an actual door operating procedure, as taught by Herkel. Herkel provides no suggestion of a test procedure in which a cage is brought to a floor as part of a test travel (as opposed to during normal operation) to monitor sensor performance in response to actual door operation.

Otto '593 teaches an elevator control system that utilizes a processor to send command signals to a car. While the signals include door opening and closing signals, and some nature of status signals sent by the cars, Otto does not, however, teach or suggest the generation of control signals to send a lift cage or car to a particular floor in a test mode, separate and apart from positioning a car at a floor as a result of a request generated during normal operation.

Thus, combining Otto with Herkel does not render the present invention unpatentable. The combination of references asserted teaches only that a controller can bring a lift cage to a floor during normal operation and monitor the status of signals associated with such normal travel, and that electronic query of sensors associated with lift doors can be performed independent of car travel to a floor by a programmed "hardware check" routine. The references do not teach or suggest a shaft door monitoring system in which a lift cage or car is actually directed to a floor in a test travel, independent of normal operation and as a result of recognizing that the floor doors have not been operated during a defined time period, to initiate an actual door opening and closing sequence to allow the signals generated by the shaft door sensors during actual operation to be monitored on a continuous, periodic basis, irrespective of the extent of normal operation travel of the lift cage to a floor to be monitored.

Withdrawal of the rejections and passage to allowance is solicited.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner For Patents, P.O. Box 1450, Alexandria, VA. 22313-1450, on July 11, 2007.

Carol L. Wood _____